



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/554,171	10/21/2005	Christian Eder	2003P04066WOUS	1339
22116 7590 03/05/2008 SIEMENS CORPORATION INTELLECTUAL PROPERTY DEPARTMENT 170 WOOD AVENUE SOUTH ISELIN, NJ 08830			EXAMINER WOLDEKIDAN, HIBRET ASNAKE	
			ART UNIT 2613	PAPER NUMBER
			MAIL DATE 03/05/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/554,171

Applicant(s)

EDER ET AL.

Examiner

Hibret A. Woldekidan

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-21, 24, 29-31 and 33-39 is/are rejected.
- 7) ☒ Claim(s) 22, 23, 25-28 and 32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date 10/21/05, 01/24/06.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETELED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 19-21, 29, 30, 31, 33, 35-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Taga et al. (5,790,289).

Consider claim 19, Taga discloses a method of pre-emphasizing an optical multiplex signal comprising a plurality of signals having different wavelengths (**See Abstract, Fig. 1 i.e. a method of pre-emphasizing optical multiplexing comprising a plurality of signals**), the plurality of signals transmitted from a transmitter to a receiver (**See Col. 4 lines 2-20, Fig. 1i.e. the optical signals transmitted from a transmitter (element 1A) to a receiver (element 1B))**), the method comprising: determining an average power for the signals to be transmitted to the receiver (**See Col. 2 lines 44-59, Col. 4 lines 2-14, Fig. 1i.e. determining the average or equalizing power of the signals and a gain controller for controlling the gain of the signals and providing a constant gain**); determining a first current power of the signals at the transmitter (**See Col. 4 lines 2-14, Fig. 1 i.e. a first gain controller at the transmitting end for determining the gain or power of the signals**); determining a second current power of the signals at the receiver(**See Col. 4 lines 15-44, Fig. 1 i.e. a second gain controller at the receiving end for determining the gain or power of**

Art Unit: 2613

the signals); determining new power values from the first and second current powers and the average power (See Col. 5 lines 1-34, Fig. 2,3 i.e. determining or setting new power or gain values); and adjusting a transmitting power of the transmitter according to the new power values (See Col. 4 lines 1-14, Col. 5 lines 15-20, Fig. 2,3 i.e. gain control unit for setting or adjusting the gain of the transmitter), wherein determining the new power values is based on equalizing signal-to-noise ratios of the signals received at the receiver (See Col. 2 lines 44-59, Col. 3 lines 8-20, Fig. 1 i.e. determining the new gain or power by using equalizing signal-to-noise ratios of the signals) .

Consider claim 20, Taga discloses the method in accordance with claim 19, wherein adjusting the transmitting power is further based on spectral influences of a transmission link between the transmitter and the receiver **(See Col. 4 lines 60-67, Col. 5 lines 1-34, Fig. 1-3 i.e. adjusting or setting the transmitting power or gain further influenced by the amplifiers and repeaters set between the transmitting units and receiving units).**

Consider claim 21, Taga discloses the method in accordance with claim 20, wherein the spectral influences include an influence chosen from the group consisting of amplification, noise influences and attenuation**(See Col. 4 lines 60-67, Col. 5 lines 1-34, Fig. 1-3 i.e. the group consisting of amplifiers, attenuation receiver, s(Element 43 of Fig. 1)).**

Consider claim 29, Taga discloses the method in accordance with claim 19, wherein signal-to-noise ratios related to selected signals or groups of signals at the

transmitter and at the receiver are determined for control purposes (**See Abstract i.e. SNR related to selecting signals at the receiver and transmitters for controlling or adjustment purposes**).

Consider claim 30, Taga discloses the method in accordance with claim 19, wherein the transmitter and receiver comprise optical amplifiers (**See Abstract, Fig. 1 i.e. the receiver and transmitters comprises amplifiers**).

Consider claim 31, Taga discloses the method in accordance with claim 19, wherein the transmission links are part links of an optical network, and a pre-emphasis is executed for each part link (**See Abstract, Col. 2 lines 60-67 and Col. 3 lines 1-7, Fig. 1 i.e. transmission links are optical network and pre-emphasis is performed for the transmission channels**).

Consider claim 33, Taga discloses the method in accordance with claim 19, wherein the plurality of signals are transmitted within a fully optical transparent network (**See Col. 4 lines 2-14, fig. 1 i.e. a plurality signals transmitted through optical transmitter or optical fiber which is transparent**).

Consider claim 35, Taga discloses the method in accordance with claim 19, wherein an additional pre-emphasis of powers of the signals at the transmitter is used for adjusting measured signal-to-noise ratios at the receiver (**See Abstract i.e. the pre-emphasis of signals used for adjusting the SNR measured at the receiver**).

Consider claim 36, Taga discloses the Method in accordance with claim 19, wherein a spectrum of the signal-to-noise ratios is determined and examined for a tilting

Art Unit: 2613

or a non-linear deviations (**See Col. 7 lines 19-34 i.e. method of determining or measuring fluctuation level or tilt**).

Consider claim 37, Taga discloses the Method in accordance with claim 36, wherein the new power values are determined such that the detected tilting or non-linear deviation is compensated for (**See Abstract i.e. adjusting the measured tilted or deteriorated signal**).

Consider claim 38, Taga discloses the method in accordance with claim 19, wherein at least one of the transmission links has a number of downstream optical amplifiers and optical wave guides (**See Col. 4 lines 8-45, Fig. 1 i.e. the transmission unit having a number of downstream amplifiers and optical fibers**), and the optical amplifiers are configured to be regulated such that an increase of an optical power spectrum at an input of each amplifier has a predetermined value (**See abstract, Col. 4 lines 8-45, Fig. 1 i.e. a monitoring and controlling units for adjusting the signals based on the measured or predetermined results**).

Consider claim 39, Taga discloses the method in accordance with claim 38, wherein this predetermined value corresponds to a tilt of a predetermined noise figure(**See abstract i.e. the predetermined or measured values are based on the noise measured at the receiver unit**).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2613

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taga et al. (5,790,289) in view of Sarkar et al. (US 2002/0167907).

Considering Claim 24 Taga does not specifically disclose the method in accordance with claim 19, wherein normalized power spectra of the signal at the transmitter and at the receiver are inverse functions to each other.

Sarkar teaches the method in accordance with claim 19, wherein normalized power spectra of the signal at the transmitter and at the receiver are inverse functions to each other **(See Paragraph 30 i.e. the signal of the receiving unit is inversely proportional to transmitting unit)**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Taga, and have the method in accordance with claim 19, wherein normalized power spectra of the signal at the transmitter and at the receiver are inverse functions to each other taught by Sarkar, thus allowing a means of balancing the input and the output power for effective transmission, as discussed by Sarkar **(Paragraph 6, 27)**.

3. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taga et al. (5,790,289) in view of Schemmann et al. (US 2002/0109883).

Consider claim 34, Considering Claim 24 Taga does not specifically disclose the method in accordance with claim 19, wherein the plurality of signals are transmitted

Art Unit: 2613

using a DWDM transmission, and spectral spacings between channels occupied by the signals are selected at 100 GHz or below.

Schemmann teaches the method in accordance with claim 19, wherein the plurality of signals are transmitted using a DWDM transmission, and spectral spacings between channels occupied by the signals are selected at 100 GHz or below (**See Paragraph 35 i.e. Signals transmitted using DWDM transmission and signal spacing $\leq 100\text{GHz}$**).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Taga, and have the plurality of signals are transmitted using a DWDM transmission, and spectral spacings between channels occupied by the signals are selected at 100 GHz or below taught by Schemmann, thus allowing a means of enhancing data transmission capacity, as discussed by Schemmann (**Paragraph 4**).

Allowable Subject Matter

1. Claims 22, 23, 25-28 and 32 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusions

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hibret A. Woldekidan whose telephone number is 27054145. The examiner can normally be reached on 8-5.

Art Unit: 2613

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on 5712723078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. A. W./
Examiner, Art Unit 2613



KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER